

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Advanced Television Systems	)	MB Docket 87-268
And Their Impact upon the Existing	)	
Television Broadcast Service	)	

TO: Office of the Secretary  
ATTN: The Commission

**COMMENTS OF WQED MULTIMEDIA**

WQED Multimedia, (WQED), licensee of noncommercial educational television Station WQED-DT, Pittsburgh, Pennsylvania, through its attorneys and pursuant to Section 1.415 of the rules, hereby files its Comments in response to the Commission's *Seventh Further Notice of Proposed Rule Making* (Notice) in the above-referenced proceeding proposing a new DTV Table of Allotments.

1. The Commission seeks comment on "whether the channel assignments in the proposed DTV Table will serve the Commission's goals of promoting overall spectrum efficiency and ensuring the best possible DTV service to the public." *Notice* at page 7, para. 16. Station WQED(TV) provides the only public television service for an extensive area and population. As explained in the attached engineering exhibit, the proposed allotment for post-transition Station WQED-DT on Channel \*13 would result in a needless reduction in service. It would also create an area in which no over-the-air public television service would be available, in derogation of the Commission's goals.

2. Analog and transitional digital facilities. As background, Station WQED(TV) is licensed to operate with 316 kW at 213 meters HAAT. As licensed in File No. BLEDT-20060606AAI, Station WQED-DT is operating during the transition on Channel \*38 non-directionally with ERP of 760 kW at 210 meters HAAT. The station was initially allotted ERP of 1000 kW at 213 meters HAAT with a directional antenna. The current operation meets the requirement to provide service to at least 80% of the population served by the initial allotment and was proposed in order to provide substantial transitional public service without the expense of constructing, operating, and eventually abandoning much more expensive temporary facilities.

3. The DTV Table facilities would result in marked diminution of service. The proposed DTV Table provides for Station WQED-DT to operate after the transition on its current analog Channel \*13, as the licensee had selected on Form 382. However, the facilities specified in the proposed DTV table, with ERP of 6.42 kW at 210 meters HAAT, would, as demonstrated in the engineering exhibit, result in a marked reduction in station coverage. The protected service area would be reduced about 5 km in all directions from the current analog service area, with a net reduction of 15.6% in area served and 7.15% in population served.

4. The DTV Table facilities would needlessly result in new public television white area. The power reduction shown in the draft DTV Table would result in depriving a significant portion of western Pennsylvania and eastern Ohio of any over-the-air public television service. The exhibit shows that if Station


WQED-DT were to broadcast with the proposed facilities, there would be new unserved area representing 2.54% of the current Station WQED(TV) coverage area. However, a study shows that Station WQED-DT could operate omnidirectionally on Channel \*13 with ERP of 19.5 kW at 210 meters HAAT without causing prohibited interference to any other digital facility operating as proposed in the DTV Table.

5. Requested relief. With this information, the proposed DTV Table should be revised for Station WQED-DT to authorize an ERP of 19.5 kW for omnidirectional operation at an HAAT of 210 meters. The proposed revision will avoid a needless loss of service and a loss of sole service for a substantial population and advance the Commission's goals in this proceeding.

WHEREFORE, for the foregoing reasons, WQED respectfully requests that the DTV Table be amended as proposed herein.

Respectfully submitted,

**WQED MULTIMEDIA**

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**WQED MULTIMEDIA**

**LICENSEE OF WQED-DT CHANNEL 38**

**PITTSBURGH, PENNSYLVANIA**

**FCC FILE Nos. BMLET-19830519KK  
BLEDT-20060606AAI**

**ENGINEERING EXHIBIT IN SUPPORT OF  
COMMENTS TO THE SEVENTH FURTHER NOTICE OF  
PROPOSED RULEMAKING IN MM DOCKET 87-268 (NOTICE)**

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**WQED MULTIMEDIA**  
**LICENSEE OF WQED-DT**  
**CHANNEL 38**  
**PITTSBURGH, PENNSYLVANIA**  
**FCC FILE No. BMLET-19830519KK**  
**BLEDT-20060606AAI**

**1. BACKGROUND AND PROPOSED CHANGES**

WQED MULTIMEDIA is the Licensee of WQED-DT, Channel 38, in Pittsburgh, PA (File No. BLEDT-20060606AAI). WQED MULTIMEDIA is filing this Engineering Exhibit in support of its Comments on the above proceeding. In the NOTICE, at Appendix B, Page 90, the FCC WQED-DT proposed facilities with elected DTV operation on Channel 13, are 6.42 kW at 210M HAAT. WQED(TV) NTSC is licensed with 316 kW and 213 meters HAAT. WQED-DT is currently operating on Channel 38 with 760 kW non-D at 210 meters HAAT and was initially allotted a maximum ERP of 1000 kW at 213M with a directional antenna. The current operation, as previously certified to the Commission, satisfies the requirement to provide service to at least 80% of the population served by the initial allotment. As a result of the proposed allotted power and HAAT for WQED-DT in the 7<sup>th</sup> FNPRM, the final digital coverage of WQED-DT, after relocation back to Channel 13, its current analog channel, results in a reduction of protected service of approximately 5 km radius in all directions over that currently enjoyed by WQED(TV) analog on Channel 13. Further this reduction in service area also causes a net reduction in served population of approximately 7.15% from that currently enjoyed. Specifically, the differences are outlined in TABLE 1.

**TABLE 1 – WQED DATA**

<b>FCC TABLE</b>	<b>NTSC</b>			<b>DTV</b>			
	<b>NTSC</b>	<b>DTV</b>	<b>DATA</b>	<b>AREA km<sup>2</sup></b>	<b>POP</b>	<b>AREA</b>	<b>POP</b>
1998 rev	13	38	1990	20,243	2,892000	23,083	3,079000
10/2004	13	38	2000	20,122	2,845244	23,035	3,041598
7 <sup>th</sup> FNPRM	13	13	2000			19,434	2,824000

From TABLE 1, the WQED-DT Channel 38 area and population as shown in the October 2004 Revised Station Listing of certified DTV facilities in Appendix B, Table 1, is 23,035 km<sup>2</sup> and 3,041,598 persons (2000 Census data). In Appendix B of the 7<sup>th</sup> FNPRM, the proposed WQED-DT Channel 13 DTV area and population is 19,434 km<sup>2</sup> and 2,824,000 persons. As proposed by the Commission, there is a net reduction in coverage for WQED-DT of 3,601 km<sup>2</sup> and 217,598 persons as compared to operation on Channel 38. The reduction in service area and population is 15.63% in area and 7.154% in population. Further, there is a net reduction in coverage for WQED-DT of 688 km<sup>2</sup> and 21,241 persons as compared to the current NTSC operation on Channel 13. This reduction in service area and population is 3.4% in area and 0.75% in population.

### **NEW WHITE AREA CAUSED AS A RESULT**

Figure 1 attached hereto shows the consequence of this power reduction. Operation of WQED-DT after the transition, as proposed by the Commission in the 7<sup>th</sup> FNPRM, results in the creation of new NCE television “WHITE” areas over a significant portion of western Pennsylvania and eastern Ohio<sup>1</sup>. Looking at Figure 1, the new

<sup>1</sup> This analysis was completed using the NTSC standard F(50,50) parameters of the nearby NCE stations typically used for “WHITE” area analysis. With these nearby stations operating digitally, the actual new

“WHITE” areas are those areas located outside the proposed WQED-DT 36 dBu F(50,90) service area (ORANGE) and inside the present WQED (NTSC) 56 dBu F(50,50) service area (GREEN) and not encompassed by the neighboring NCE station(s) service area (64 dBu F(50,50) UHF BLUE and 47 dBu F(50,50) Low VHF RED). This new WHITE area is approximately a land area of 512 km<sup>2</sup> or 2.54% of the current WQED NTSC 56 dBu coverage area.

A Longley Rice engineering study performed for WQED MULTIMEDIA and analyzed by this office, has confirmed that WQED-DT, Channel 13, could utilize an effective radiated power of 19.5 kW at 210 meters with an omni-directional antenna and this operation would not cause prohibited interference (above 0.1 %) to any other digital facility operating as proposed in the 7<sup>th</sup> FNPRM.

Therefore we conclude that, in order to satisfy the requirements regarding loss of coverage creating new ‘WHITE’ areas, WQED-DT returning to its current NTSC Channel 13, should be authorized an ERP of 19.5 kW omni-directional at an HAAT of 210 meters.

Operation at 19.5 kW will insure complete coverage of the current NTSC service area of WQED(TV) and not create any new “WHITE” areas after the completion of the transition.

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“WHITE” area may decrease slightly but most of the new area would remain as shown herein. Further, the certified WPSX-DT Channel 15 operation will actually increase the “WHITE” area for WQED-DT towards the WPSX-DT site because the WPSX-DT Channel 15 digital coverage is nowhere as great as the present WPSX Channel 3 analog coverage.

## Sites

## Interference contour study

Propagation methods:  
service contour : FCC-FCC 50.0%

 = 64.0 dBuV/m service contour

 quick contours

 Reference Grid (spacing: 1 degree)

## Notes

Map showing generated white areas created as a result of WQED-DT FCC proposed allotment power of 6.42 kW on Channel 13. SEE TEXT for discussion.  
BLUE - nearby UHF NCE stations 64 dBu F(5050).  
RED - nearby VHF NCE station 47 dBu F(5050).  
GREEN - WQED(NTSC) 13 56 dBu F(5050)  
ORANGE - WQED-DT 13 36 dBu F(5090)  
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KILOMETERS



## WHITE AREA STUDY

WQED-TV AND DT CH 13

Figure 1

1/04/2006

